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ABSTRACT

This curriculum guide has been developed to assist vocational and special education teachers in teaching handicapped and disadvantaged students in a beginning vocational agriculture course. The guide contains suggestions and experiences that are necessary to support the achievement of specific competencies. The guide is divided into units of instruction containing major and minor blocks. It is sequenced secondarily to skills or jobs that progressively build upon one another. Activities and experiences for both regular and special needs learners are provided. All of the units of instruction are intended to enable students to develop skills for employment in agriculture. The guide contains eight units. Each of the units is divided into several lessons, each containing preferred and minimum student expectations, classroom activities, and a glossary. Some of the topics covered include the following: how to use a modified curriculum, breeds of farm animals, soil and water use and protection, crop production, agricultural mechanics, use of tools, supervised farm experience programs, and Future Farmers of America. (KC)

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VOCATIONAL AGRICULTURE I

A MODIFIED CURRICULUM

For Handicapped Students

Developed by:

Vocational Education for Handicapped
Research Project Staff

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College Station, Texas

In cooperation with:

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Austin, Texas

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A Rationale for Integrating Special Needs Students in Regular Vocational Programs

As a result of recent legislation, handicapped and disadvantaged students may participate and develop their potential in regular vocational education programs such as trade and industrial education, home economics, and vocational agriculture. Vocational teachers who have taught special needs students have found that the abilities shown by handicapped and disadvantaged students has been greater than expected. Through mainstreaming efforts, many special needs students have joined and participated in regular vocational programs.

The greatest challenge facing vocational teachers today comes from the equal rights legislation. One of the educational rights guaranteed to special needs learners through the legislation is access to regular vocational programs where salable skills can be developed. Equality of educational opportunity for all students can only become a reality if vocational teachers and other school personnel make the commitment to serve special needs students. Without this commitment on the part of all educators, special needs students will continue to experience difficulty in developing to their fullest potential and in becoming productive workers.

Appropriate vocational education for handicapped and disadvantaged students should include educational instruction and training appropriate to the needs of each individual. The responsibility of each vocational teacher is to accept all learners, including special needs learners, as capable individuals and to assist all learners to become productive individuals in society. Facilities modifications, adaptive equipment and aids, instructional material, and curriculum alternatives are necessary and critical if special needs students are to successfully develop a vocational skill. Therefore, these curriculum guides are offered as means and resources to assist vocational and special education teachers to provide special needs students with appropriate vocational education opportunities, experiences, and activities. These curriculum guides have been designed for use with handicapped, primarily learning disabled, and disadvantaged students. It is hoped that the information presented in these guides will assist handicapped and disadvantaged learners to enter and succeed in regular vocational education programs.

Vocational Agriculture I: A Modified Curriculum for Handicapped Students

Vocational Agriculture I is one of three guides developed for use in teaching handicapped and disadvantaged students. Other guides developed as part of this project were in the areas of Homemaking I and Building Trades.

Contents of the Guide

Each curriculum guide, with the exception of Building Trades, was conceptualized and developed following the format and standards specific to the subject matter area. The content for each guide is based on the tasks and competencies needed by students entering secondary vocational-technical programs. The content for each guide was developed through the use of suggested learning activities and experiences. Competencies refer to the knowledge,

skills, and behaviors needed by students in order to succeed in regular vocational programs.

How to Use the Guides

These curriculum guides have been developed to assist vocational and special education teachers in teaching handicapped and disadvantaged students. The curriculum guides are intended to be used to assist students who have different learning abilities. The guides contain suggestions and experiences that are necessary to support the achievement of specific competencies. Each guide is divided into units of instruction containing major and minor blocks. Each guide is sequenced secondary to skills or jobs that progressively build upon one another. Activities and experiences for both regular and special needs learners are provided. All of the units of instruction included in the guides have as their purpose to enable students to develop skills for employment in the respective field.

Vocational and Special education teachers are encouraged to modify and/or adapt these curriculum materials to fit their particular situation or community. Teachers are encouraged to use judgment in selecting and using learning activities and experiences that will enable students to succeed in vocational programs. The specific competencies to be developed should be selected on the basis of students' needs, interests, and abilities. This guide should serve as a valuable resource for program planning and curriculum development at the local level.

VOCATIONAL AGRICULTURE I
Unit: Breeds of Beef Cattle

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Recognize 15 breeds of beef cattle by characteristics.	Recognize 15 breeds of beef cattle by picture or sight.
Be able to distinguish between exotic and standard breeds.	Be able to distinguish between exotic and standard breeds.

CLASSROOM ACTIVITIES

Provide a (teacher) ready made chart including the breed, origin, color markings, horned or polled and outstanding or distinguishing characteristics for students to fill in.

Use color pictures or slides, like flashcards in groups of 2 or 3.

Divide class into two teams and ask questions about the different breeds (similar to a spelling bee).

If available visit breeders in the area for first hand exposure. Do the same if there is a livestock show nearby (field trip).

Have students use the glossary of terms by putting the words into context.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Breed - applied to a group of animals that are similar in body shape and form with a common origin & certain distinctive characteristics.

"Purebreds" - cattle that when mated produce the same breed of offspring.

"Crossbreds" - cattle that are a mixture of two or more breeds.

VOCATIONAL AGRICULTURE I
Unit: Breeds of Swine

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENTS EXPECTATIONS
Recognize 12 breeds of swine by their characteristics.	Recognize 12 breeds of swine by picture or sight.

CLASSROOM ACTIVITIES

Provide a teacher made chart including the breed, origin, color markings and outstanding or distinguishing characteristics for students to fill in.

Use color pictures or slides, like flashcards in groups of 2 or 3.

Divide class into two teams and ask questions about the different breeds (similar to a spelling bee).

Visit a local breeder or producer in the area.

Have students use the glossary of terms by putting the words into context.

VOCATIONAL AGRICULTURE I
Unit: Breeds of Dairy Cattle

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Recognize the major dairy breeds by characteristics.	Recognize the major dairy breeds by sight or picture.

CLASSROOM ACTIVITIES

Use color pictures or slides, like flashcards in groups of 2 or 3.

If available, visit local dairies.

Have students use the glossary of terms by putting the words into context.

Provide teacher made chart including breed, color markings, body size, origin, butterfat percent for students to fill in.

ADDITIONAL WORDS FOR THE GLOSSARY OF TERMS

Tempermental - sudden changes in moods.

VOCATIONAL AGRICULTURE I
Unit: Breeds of Horses

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Understand how horses are classified.	Know the difference between light horses, ponies and draft horses.
Recognize breeds of horses by characteristics and uses.	Recognize breeds of horses by picture or sight.

CLASSROOM ACTIVITIES

Provide a teacher-made chart including the breed, origin, color markings, height & weight and uses for students to fill in.

Use color pictures or slides, like flashcards in groups of 2 or 3.

Divide class into two teams and ask questions about the different breeds (similar to spelling bee).

Visit a local breeder or producer.

Have students use the glossary of terms by putting the words into context.

VOCATIONAL AGRICULTURE I
Unit: Breeds of Goats

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENTS EXPECTATIONS
Recognize 5 breeds of goats by characteristics.	Recognize 5 breeds of goats by picture.
Understand difference between milk goats and angora goats.	Same.

CLASSROOM ACTIVITIES

Provide a teacher made chart including the breed, origin, color markings and outstanding or distinguishing characteristics.

Use color pictures or slides.

Have students use glossary of terms in context.

Write to 1 of the breed associations for additional information & pictures.

ADDITIONAL WORDS FOR THE GLOSSARY OF TERMS

Mohair - long silky fiber or hair that is produced by the Angora goat.

VOCATIONAL AGRICULTURE I
Unit: Breeds of Sheep

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Distinguish between the different wool types.	Be able to give an example of the 5 wool types.
Recognize 10 breeds of sheep by characteristics.	Recognize 10 breeds of sheep by picture or sight.

CLASSROOM ACTIVITIES

Provide a teacher made chart including breed, origin, horned or polled, suitability for mutton or wool production, white or black faced & type of wool produced for students to fill in.

Use color pictures or slides, like flashcards in groups of 2 or 3.

Divide class into two groups and ask questions about the different breeds (similar to spelling bee).

Visit local breeder or producer, feedlot etc.

Have students use the glossary of terms by putting the words into context.

VOCATIONAL AGRICULTURE I
Unit: Classes, Breeds, and Varieties
of Chickens and Turkeys

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Know the 5 factors that are considered by most poultrymen in selecting a breed or variety.	Know the 5 factors that are considered by most poultrymen in selecting a breed or variety.
Know the 4 major classes formed in the U.S.	Same.
Be able to list the more prominent breeds in each class.	Same.
Recognize 4 varieties of turkeys that are of importance to commercial production by characteristics.	Same but by picture or sight.

CLASSROOM ACTIVITIES

Provide a teacher made chart including class, breed, body conformation, ear lobe & skin color, egg color, meat or egg production, comb type and other distinguishing characteristics to that breed for students to fill out.

Use color pictures or slides for students to use as flashcards in groups of 2 or 3.

Divide class into two teams and ask questions about the different breeds (similar to spelling bee).

Visit a local egg farm or broiler producer.

Have students use the glossary of terms by putting them into context.

(This goes for turkeys as well)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Plumage - feathers covering the body.

Shank - part of the leg between the thigh and toes.

VOCATIONAL AGRICULTURE I
Unit: Classes, Breeds, and Varieties
of Chickens and Turkeys (Con't)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Wattles - loose flesh that is attached to the neck.

Caruncle - attached to wattle in turkeys.

Beard - tuft of feathers attached to the breast of the turkey.

VOCATIONAL AGRICULTURE I
Unit: Soils, Influence & Formation

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 6 reasons why soils are a vital natural resource.	Learn 4 reasons why soils are a vital natural resource.
Learn 5 interacting factors responsible for soil formation.	Learn 4 interacting factors responsible for soil formation.
a. climate	a. climate
b. natural vegetation and organisms	b. natural vegetation and organisms
c. weathering	c. parent material
d. parent material	d. weathering
e. topography	
Understand the inter-relationship of the factors listed above.	Understand basically what each factor is responsible for doing.

CLASSROOM ACTIVITIES

Provide charts listing reasons soils are vital, with drawings and symbols - for example, a drawing of someone eating a meal from a plant to show that food production is a vital use, or a shirt to show that fiber production is a vital use .

Provide Texas maps (drawn) to show rainfall amounts and temperatures throughout Texas and explain that high rainfall and temperatures increases soil formation.

Explain that shallow rocky soils are still forming into new soils that are improved.

Provide audio-visual aids from commercial sources that could compliment these other activities.

Provide a follow-up summary discussion.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

"C" Layer - Soils are divided into layers. The top or surface layer is the topsoil. The second layer is the subsoil, and the lower layer is the "C" horizon.

Leaching - Leaching occurs when water (such as rain) washes soluble materials (such as fertilizer) out of plant root zones by the force of gravity.

VOCATIONAL AGRICULTURE I
Unit - Soils, Influence & Formation (Con't)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Percolation - Percolation happens when water is pulled downward through the soil by the force of gravity.

Permeable - A soil is permeable when it is loose and allows water and air to penetrate it.

Residual - Soils that have not been moved from where they were developed are known as residual soils.

VOCATIONAL AGRICULTURE I
Unit - Components of Soils and Its Properties

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 3 classes of materials from which soils are formed.	Learn 3 examples of materials from which soils are formed.
a. residual materials b. transported materials c. cumulose materials	a. Those materials that have not transported (residual) b. Those materials that have been transported by wind, water, etc. c. materials developed in shallow lakes (cumulose)
Learn the 3 forms of materials soils are composed of, and the importance of each.	Learn that soils are composed of air, water, organic matter, minerals.
Learn the 3 classes of soil particles and the relative sizes to one another.	Learn the 3 classes of soil particles and the relative sizes to one another.
Learn the difference between soil texture and soil structure.	Learn what is meant by soil texture.
Learn how color is an indicator of organic matter.	Learn that dark colored soils are normally high in organic matter (humus).
Learn how structural aggregates of soils are classed.	Learn the meaning of soil fertility.
Learn what is meant by soil consistency.	
Learn what is meant by soil fertility.	

CLASSROOM ACTIVITIES

Provide sketches or drawings on charts of the components of soils.

Provide a drawing of a labeled soil profile showing the horizons and their names. Label the residual, transported, and cumulose zones that may be applicable.

VOCATIONAL AGRICULTURE I
Unit - Components of Soils and Its Properties (Con't)

CLASSROOM ACTIVITIES

Provide gravel, sand, clay, and silt for the student to feel. Let the student compare the coarse feel of the gravel, the fine feel of clay and the intermediate feel of sand grains. This demonstrates texture.

Provide a dark topsoil high in organic matter and a sandy topsoil to compare colors for organic fertility.

Provide a follow-up discussion after students have had an opportunity to perform some of the exercises.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Residual materials - Residual material is the part of the soil that was formed in place. They came from underlying rocks and minerals.

Transported materials - Transported materials are soil materials that have been transported by water.

Cumulose materials - Cumulose materials came from plants that die in shallow lakes. They change into peat and muck.

Soil fertility - A fertile soil is one that can provide large quantities of nutrients for plant growth.

VOCATIONAL AGRICULTURE I
Unit - Soil Classification & Sampling

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the 4 major horizons of a soil profile.	Learn 3 major horizons of a soil profile.
Learn the purpose for classifying soils.	Learn the purpose for classifying soils.
Learn the purpose for making soil surveys.	Learn the purpose for making soil surveys.
Learn the purpose for making water conservation plans.	Learn the purpose for making water conservation plans.
Learn the purpose of taking soil samples.	Learn the purpose for taking soil samples.
Learn how to take soil samples.	Learn how to take soil samples.
a. Proper time b. Proper procedures	a. Proper time b. Proper procedures
Learn where to send soil samples for testing.	Learn where to send soil samples for testing.

CLASSROOM ACTIVITIES

Provide a drawing of a properly labeled soil profile, showing all four horizons.

Provide audio-visual aids from commercial markets to show and discuss how soils are classed and why it is important.

Provide a chart with drawings to show why a water conservation plan is important to farmers. Show, for example, ponds, dams, terraces, cropping areas, etc.

Demonstrate outside the classroom how to properly take soil samples. Let students take samples by using proper equipment and procedures.

Demonstrate how to record information of samples to be sent to testing labs. Instruct students to follow these procedures.

Regular students may be paired with handicapped students when engaged in the preceeding activities.

VOCATIONAL AGRICULTURE I
Unit - Soil Classification & Sampling (Con't)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Topsoil - The surface soil and a few inches below it is normally what is known as topsoil. It is also known as horizon A.

Subsoil - The soil lying just beneath the topsoil is known as the subsoil. It is also called horizon B.

Parent material - The horizon lying just beneath the subsoil is known as parent material. It has to do with formation of soils above it. It does not have much living matter in it. It is also known as horizon C.

Bedrock - Bedrock is lying below horizon C. It is known as horizon D and may affect all layers above it.

VOCATIONAL AGRICULTURE I
Unit - Conserving Soils

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn what erosion is.	Understand what erosion is.
Learn the importance of preventing erosion.	Learn the importance of preventing erosion.
Learn 3 types of water erosion and controls that may apply.	Learn 3 types of applicable water erosion controls.
Learn what damages may occur by wind erosion and how to control them.	Learn what damages may occur by wind erosion and how to control them.
Learn how soil erosion may be influenced by the nature of soil, climate, vegetative cover, slope, and soil management.	Learn how soil erosion may be influenced by the nature of the soil, climate, vegetative cover, and slope.
Learn 5 water disposal system practices which can be used to prevent erosion.	Learn applicable erosion prevention water disposal systems.
Learn 4 other major practices to prevent erosion.	Learn other erosion prevention practices.

CLASSROOM ACTIVITIES

Present commercial slides, films, etc., on soil erosion. The materials should show types of wind and water erosion, and objectively point out ways to prevent erosion.

Field trip may be appropriate to see the types of erosion and see how prevention is practiced.

Charts may be provided listing items that are being discussed.

Pictures & drawings can be provided to see the different means of erosion prevention, e.g. - terraces, strip croppings, etc.

V.A.I
III-C-1&2&3

VOCATIONAL AGRICULTURE I
Unit - Conserving Soils (Con't)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Erosion - Movement of particles of soil or rock by water and wind is known as erosion. Freezing and gravity also chip off particles of soil or rock making them easy to move.

Infiltration - The downward movement of water in the soil is infiltration.

Impervious - A hard soil that will not allow root growth or water percolation is said to be impervious.

VOCATIONAL AGRICULTURE I
Unit - Controlling Soil Water Losses

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn what soil water is.	Learn what soil water is.
Learn 4 important ways water serves plants.	Learn important ways water serves plants.
Learn 2 ways soils get water.	Learn ways that soils get water.
Learn 3 kinds of soil moisture.	Learn 3 kinds of soil water.
Learn 2 basic ways for determination of soil moisture.	Learn 2 basic ways to determine soil moisture.
Learn 4 ways soils lose water.	Learn ways soils lose water.
Learn the importance of good drainage and 8 benefits from it.	Learn the importance of good water drainage and benefits from it.
Learn 4 categories of drainage problems.	Learn categories of drainage problems.
Learn 2 soil conditions that require drainage.	Learn conditions of soils that require drainage.
Learn the 2 types of drainage systems.	Learn 2 types of drainage systems.

CLASSROOM ACTIVITIES

Provide charts listing important ways plants are served by water. May draw sketches to illustrate, e.g. - plants with water in them, transport of minerals into plants via water.

Demonstrate capillary water by placing drops of water in soils and observe movement.

Demonstrate hygroscopic water by displaying dry soils.

Demonstrate gravitational water by placing an excess of water in a potted plant container.

Demonstrate how to determine adequate soil moisture by hand squeezing soils into a ball. Instruct students to do the exercise.

VOCATIONAL AGRICULTURE I
Unit - Water Requirements of Crops

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the 4 parts of an ideal soil on a volume basis and the percentage of each.	Learn 4 parts of an ideal soil on a volume basis.
Learn the relationships between field capacity, permanent wilting point and available water.	Learn what is meant by available water.
Learn 4 important functions of water to plants.	Learn what happens to plants when they need water.
Learn the relationships of soil texture to the amounts of water they can hold.	Learn that clay will hold more water than sand.
Learn 4 factors which affect the water requirement of plants.	List 3 factors that affect water requirements of plants.

CLASSROOM ACTIVITIES

Provide drawings of ideal soils and label the components.

Discuss the relationships of the components.

Provide soil samples of clay, sand, and loam to compare particle sizes.

Provide equal sized jars of sand and clay. Fill each with water and determine which will hold the most water.

Provide a wilted plant - water it and observe at the end of the period or on the next day.

Pour water into a potted plant to demonstrate both available water and gravitational water.

Team regular and handicapped students to perform demonstrations.

Provide audio-visual materials including slides, 16mm films, and tapes.

VOCATIONAL AGRICULTURE I
Unit - Controlling Soil Water Losses (Con't)

CLASSROOM ACTIVITIES

View commercial audio-visual materials that show drainage problems and types of soils requiring drainage.

Prepare a chart of drainage systems - use pictures or take field trips.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Wilting Point - When a plant will not recover from wilting, the soil is dry and has reached the wilting point.

Hygroscopic water - Water held tightly to soil particles cannot be used by plants. This water is called hygroscopic water.

Capillary water - Water that adheres in large quantities to soil particles is available to plants. This water is called capillary water.

Water table - Wells are dug down to where water completely fills spaces between soil particles. This water is in the water table. Sometimes water lies close to the top of the ground and can interfere with crop production. The water table refers to the depth of the water that lies beneath surface.

VOCATIONAL AGRICULTURE I
Unit - Water Requirements of Crops (Con't)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Field capacity - When a soil holds as much water as it can against the force of gravity, the soil is saturated and the condition is known as field capacity.

Permanent wilting point - When soils dry to a point where plants remain wilted, even on a cool morning the soils are said to be at "permanent wilting point".

Available water - Water in the soil that plants can use.

VOCATIONAL AGRICULTURE I
Unit - Soil & Water Conservation Measures

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 4 major factors that affect the intake of water by the soil.	Learn 3 factors that affect the intake of water by the soil.
Learn 2 ways of improving soil water movement.	Learn 2 ways to help improve soil water movement.
Learn 3 ways of increasing water storage capacity.	Learn 2 ways of increasing soil holding capacity.
Learn 5 recommended practices for conservation of soil water.	Learn recommended practices for conservation of soil water.
Learn 2 land use factors that may be used for conservation practices.	Learn 2 land use factors that may be used for conservation practices.

CLASSROOM ACTIVITIES

Demonstrate how water intake will be affected by pouring water on clay, sand, and gravel.

Demonstrate how water intake will be affected by pouring water on bare sloping soils, bare hard soils, and on vegetative covered soils.

Demonstrate how soils with large quantities of organic matter will compare to comparable soils void of organic matter.

Follow-up with poster sketches.

Provide slides, filmstrips, tapes showing & describing these principles.

Team normal and handicapped students to perform the demonstrations of their choice.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Infiltration - Water moves downward by infiltration. If it moves fast like in sands, the infiltration rate is high.

V.A.I
III-D-4

VOCTIONAL AGRICULTURE I
Unit - Soil & Water Conservation Measures

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Cohesion - Water molecules are held together by a strong force, cohesion.

Adhesion - Water molecules are held to surfaces of soil particles by cohesion.

Fallow - If no plant is allowed to grow on a soil, it is lying fallow. This gives soils a needed rest.

V.A.1
IV-A-1,3

VOCATIONAL AGRICULTURE I

Unit - Economic Importance and Major Areas of Crop Production

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Recall briefly, history of crop husbandry.	Learn a brief history of crop husbandry.
Learn the first crops of importance in the world.	Learn the crops most important in the world.
Learn the importance of crop plants.	Learn why plants are so important to the world.
Learn 5 of the major classes of crop plants used as a food source.	Learn 5 high ranking export crops that Texas produces.
Learn 5 crops Texas exports that rank high in total U.S. exports.	

CLASSROOM ACTIVITIES

Provide films, slides, tapes, etc. on early history and development of crop husbandry during recent times.

Use flash cards with names of the most important world crops.

Use flash cards with names of the crops that Texas exports in large quantities.

Provide maps for students to use in locating different parts of the world.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Exports - Crops that are sold to another country are known as exports. An example is selling wheat to Russia.

VOCATIONAL AGRICULTURE I
Unit - Plant Structure - Functions of Plant Parts

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn basic differences between plants and animals.	Learn basic differences between plants and animals.
Learn things plants and animals have in common.	Learn three things that are required by both plant and animals.
Learn 5 parts of plant cells and the function of each.	Learn parts of plant cells and the function of each.
Learn the function of meristematic tissue.	Learn the function of meristematic tissue.
Learn the complex tissue xylem and phloem and the function of each.	Learn the function of xylem and phloem.
Learn the parts and functions of longitudinal sections of roots.	Learn the parts of the root longitudinal section and the function of 3 parts.
Learn 5 parts of plant stems and functions of each.	Learn parts of plant stems and functions of each.

CLASSROOM ACTIVITIES

- Provide a chart that lists characteristics of life.
- Provide a drawing of a plant cell with major parts labeled.
- Provide a microscope with a prepared slide of plant cells for observation.
- Provide a display of a stem cross-section of a woody plant to show the xylem, phloem, and meristem zones.
- Also provide a real plant root for observation.
- Provide drawings of plant stems properly labeled.
- Provide stems from plants to observe.

V.A.I
IV-A-2

VOCATIONAL AGRICULTURE I

Unit - Major Areas of Crop Production - State, Nation, World

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 4 factors that restrict crop production.	Learn 4 factors that restrict crop production.
Learn the 5 top crop producing countries of the world.	Learn 3 top crop producing countries.
Learn 5 major crop areas in the United States and a major crop in each area.	Learn 3 major crop producing areas of the United States.
Learn 5 Texas crop districts and include the one that is included in the home area.	Learn 3 Texas crop districts and include the one in the home area.
Learn what major crop is grown in each Texas crop district.	Learn a major crop grown in each Texas area identified above.
Learn how a Class I soil differs from Class II soils. Develop a concept of soil classes III through VIII.	Learn why Class I is a good soil. Learn why other classes of soil are not as good as Class I.

CLASSROOM ACTIVITIES

Provide a chart listing factors that limit crop production. Can use sketches, fire, ice, sun, rain, wind, etc.

Provide maps of the U. S. and Texas to observe in learning the crop producing regions.

Provide slides and tapes of the Land Classes.

Take a field trip to observe various classes of land.

V.A.I
IV-B-1

VOCATIONAL AGRICULTURE I
Unit - Plant Structure - Functions of Plant Parts (Con't)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Xylem - water is conducted throughout plants by tubes composed of xylem.

Phloem - Foods for plants cells are conducted through tubes made of phloem.

Meristematic tissue - A group of cells that divide to produce growth in diameter is known as meristematic tissue.

VOCATIONAL AGRICULTURE I
Unit - How Seeds Germinate

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Identify 3 functions of seed.	Learn why seed are important.
Learn the difference between dicotyledons & monocotyledons.	Learn one difference between a bean seed and a corn seed.
Learn the 4 factors necessary for seed to germinate.	Learn 4 factors necessary for seed to germinate.
Learn 5 conditions that may cause seed not to germinate.	Learn 3 conditions that may cause seed not to germinate.
Know what is meant by seed dormancy.	Learn what is meant by seed dormancy.
Learn 3 ways to break seed dormancy.	Learn 1 way to break seed dormancy.
Learn 5 parts of a seed and a function of each.	Learn these parts of a seed and their functions: a. seed coat, b. embryo, c. endosperm.

CLASSROOM ACTIVITIES

Provide a simple illustrated drawing of both a monocot and dicot seed, properly labeled.

Provide viable bean and corn seed so that respective parts can be identified.

Dissect the seed to see the parts.

Provide materials for student to make a chart listing factors necessary for seed germination.

Demonstrate a way to break dormancy: e.g. sandpaper or some abrasive action on the seed coat.

Give student an opportunity to demonstrate seed germination by wetting paper towels and placing seed between them, e.g. alfalfa.

In many activities, a regular student may be teamed with a handicapped student.

VOCATIONAL AGRICULTURE I
Unit - How Seed Germinate (Con't)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Dicot - A bean plant is a dicot. It has 2 seed leaves that provide food for the seedling.

Monocot - A corn plant is a monocot. It has one seed leaf, but the endosperm provides food for the seedling.

Germination - A seed germinates (sprouts and begins to grow) when proper conditions have been met.

Viable - A viable seed is one having a live embryo that will grow when proper conditions have been met.

Dormancy - A seed is dormant when it fails to germinate under proper conditions.

V.A.I
IV-B-3

VOCATIONAL AGRICULTURE I
Unit - How Plants Make, Use, and Store Food

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn why a plant is a tiny factory.	Learn why a plant is a tiny factory.
Learn 9 parts of the leaves that function in photosynthesis.	Learn the purpose of stomates, chlorophyll, light and parenchyma cells.
Learn the raw products necessary for photosynthesis-Carbon, water, also light and chlorophyll.	Know that water, carbon, light, and chlorophyll are necessary for photosynthesis.
Learn the products of photosynthesis.	Learn that sugar is the important product from photosynthesis.
Learn how water and sugars move throughout the plant.	Learn how water and sugars move throughout the plant.
Learn what is meant by plant respiration and its importance.	Learn that respiration in plants is a process whereby plants utilize sugar to obtain energy to function.
Learn 5 differences between photosynthesis and respiration.	Learn 3 differences between photosynthesis and respiration.
Learn the meaning of transpiration and 4 factors affecting transpiration.	Learn why plants lose water from the leaves.
Learn 4 reasons water is valuable to plants.	Learn reasons water is valuable to plants.
Learn 3 major forms of foods stored in plants.	Learn where foods are stored in plants.
Learn the 3 plant classes according to length of life.	Learn three classes of plants according to length of life.

CLASSROOM ACTIVITIES

Provide a wall chart or other visual aid of a leaf cross-section.

Provide a microscope and prepared slide of leaf surface to see stomates.

VOCATIONAL AGRICULTURE I
Unit - How Plants Make, Use, and Store Food (Con't)

CLASSROOM ACTIVITIES (CON'T)

Illustrate by chart how carbon from air and water from the soil converge in the leaf to make sugar in the palisade cells when light shines on it.

Prepare a chart to compare photosynthesis and respiration - students can use flash cards to describe or compare the process.

Demonstrate wilted effects of plants due to lack of water.

Provide plants with specialized storage functions to illustrate how foods may be stored.

Regular students and handicapped students may be paired for more effective learning.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Photosynthesis - Plants make food by a process called photosynthesis.

Chlorophyll - Chlorophyll is the green pigment in cells of leaves necessary for photosynthesis.

Parenchyma - Cells in plants where foods are stored are called parenchyma cells. Many parenchyma cells in the leaves have chlorophyll in them.

Respiration - Plants obtain their energy by breaking foods down into sugars. This process also occurs in animals and is known as respiration, it is the opposite of photosynthesis.

Annual - An annual is a plant that begins as a seed, grows and produces seed and then dies in the same year.

VOCATIONAL AGRICULTURE I
Unit - Classification of Plants - Field Crops

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the purpose for classifying plants.	Learn why it is important to classify plants.
Learn the Botanical Classification of corn, particularly common name, kingdom, family, genus, species, and variety.	Learn the binomial system of nomenclature. Genus, species, and variety.
Learn a basic characteristic of each of the 4 plant divisions.	Learn the basic differences between flowering plants and other classes of plants.
Learn 2 basic differences between monocots and dicots.	Learn 2 basic differences between dicots and monocots.
Learn 3 examples each of dicots and monocots.	Learn 2 examples each of dicots and monocots.
Learn to classify 5 plants according to use.	Classify 5 plants according to use.
Learn to classify 5 plants according to special use.	Classify 5 plants according to special use.
Learn to classify 2 plants according to thermal needs.	Classify 2 plants according to thermal needs.
Learn the 3 classifications according to life span.	Learn 3 different life span classifications.

CLASSROOM ACTIVITIES

Provide a chart listing the botanical classification of corn.

Provide plants of each of the 4 plant division to observe and compare to the flowering plants.

Use flash cards to learn how to match specific crops to different classifications.

Provide examples of plants according to use, thermal needs, and length of life.

Provide plants such as corn and beans to compare characteristics of monocots and dicots.

V.A.I
IV-C-1

VOCATIONAL AGRICULTURE I
Unit - Classification of Plants - Field Crops (Con't)

CLASSROOM ACTIVITIES (Con't)

Use regular students teamed with handicapped students to participate in activities.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Monocots - Soft-stemmed plants in the grass family are known as monocots. They have one seed leaf.

Cotyledon - A leaf of a plant that emerges from the soil is a seed leaf that is called a cotyledon.

Dicot - Plants with 2 seed leaves are called dicots. They may be softstemmed or hard-stemmed.

VOCATIONAL AGRICULTURE I
Unit - Selection of Plants - Field Crops

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 10 important crops of the world and the home country.	Learn important crops of the world and the home country.
Learn how agriculturists selected crops in early times.	Learn how agriculturists selected crops in early times.
Learn 7 factors that affect the choice of crops.	Learn factors that affect the choice of crops.
Learn 10 reasons why plant breeders use crop selection methods.	Learn reasons why plant breeders use crop selection methods.
Learn the meaning of mass selection and pedigree selection.	Learn the meaning of mass selection and pedigree selection.
Learn special use types of crops: a) corn - 4 b) sorghum - 3 c) wheat - 3 d) barley - 2 e) oats - 1 f) rice - 2 g) cotton - 2	Learn special use types of crops: a) corn - 3 b) sorghum - 2 c) wheat - 2 d) barley - 2 e) oats - 1 f) rice - 2 g) cotton - 2

CLASSROOM ACTIVITIES

Provide pictures, filmstrips, slides of different kinds of crops.

Provide fresh materials or mounts of special purpose crop plants.

Provide posters listing important crops of the world.

Provide maps to show where the crops came from.

Provide poster listing factors that affect choice of crops.

Provide live plants to compare crop selection of good qualities compared to poor qualities.

Provide visual aids (slides, 16mm, filmstrips) to compare characteristics of special use crops, e.g. corn and sorghum.

V.A.I
IV-C-2

VOCATIONAL AGRICULTURE I
Unit - Selection of Plants - Field Crops (Con't)

CLASSROOM ACTIVITIES (Con't)

Use flash cards to match crops to the country where they originated.

Permit regular students and handicapped students to work together on many activities.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Mass Selection - When seed from several plants with desirable characteristics are planted together, another selection is made in selecting the stronger more desirable plants. This is known as mass selection.

Pedigree Selection - Pure line plants are grown and desirable individuals are selected. This is known as pedigree selection.

VOCATIONAL AGRICULTURE I
Unit - Sexual & Asexual Reproduction

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 3 parts of the pistil and their functions.	Learn the parts of a pistil and their functions.
Learn the 2 parts of the stamen and their functions.	Learn the 2 parts of the stamen and their functions.
Learn the 3 accessory organs of flowers and their functions.	Learn 2 accessory organs and their functions.
Learn how plants are pollinated with a basic understanding of the process.	Learn the purpose of plant pollination.
Learn how fertilizations occur and that seed develops.	Basic understanding of how egg and sperm unite.
Learn 3 important reasons for vegetative reproduction.	Learn 2 important reasons for vegetative reproduction.
Learn 5 means of below ground vegetative propagation.	Learn 4 means of below ground propagation.
Learn 4 means of above ground vegetative propagation.	Learn 3 means of above ground propagation.
Learn the means of vegetative propagation by layering.	Learn the process of layering and the purpose.

CLASSROOM ACTIVITIES

- Provide a labeled drawing of a complete flower for observation. Point out male and female parts by name.
- Provide a real flower that is large enough to observe all parts, e.g., petunia.
- Look at pollen grains through a microscope. Also observe ovules.
- Prepare visual aids to show how plants are pollinate, e.g. bees moving from flower to flower.
- Prepare visual aids to show how pollen germinates and grows down the style into the ovary.

VOCATIONAL AGRICULTURE I
Unit - Sexual & Asexual Reproduction (Con't)

CLASSROOM ACTIVITIES

Provide a pod such as a pea to point out that the hull is a developed ovary, that each seed develops from fusion of an ovule pollen nuclei.

Prepare drawings of vegetative reproduction practices - labeled.

Bring plant materials into the classroom to demonstrate cuttings, budding, grafting, etc.

Use commercial audio-visual aids to follow-up these activities.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Pollination - Pollination is the process of a pollen grain being transferred from the anther to the stigma of the ovary.

Fertilization - When the nuclei of both pollen grain and an egg fuse together within an ovary, a seed is formed. This process is called fertilization.

VOCATIONAL AGRICULTURE I
Unit - Disposing of Plant Residue

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the importance of crop residue.	Learn the importance of crop residue.
Learn the importance of carbon-nitrogen ratios in crop residue.	Learn why carbon-nitrogen ratio in crop residue is so important.
Learn 5 practices in disposing of crop residue.	Learn 3 practices in disposing of crop residue.
Learn 5 examples of crop residue used in industry.	Learn 3 examples of crop residue used in industry.
Learn some general considerations about proper management practices of crop residue.	Understand the general expected results of proper management of crop residue.

CLASSROOM ACTIVITIES

Provide audio-visual materials of several kinds of crop residue.

Use charts to illustrate that residues are broken down into usable nutrients.

Use charts with drawings to show that soil organisms feed on plant residues, using carbon and nitrogen for energy.

Use a chart with drawings to show that micro-organisms compete with plants for nitrogen, and that nitrogen may need to be added to supply enough.

Use pictures to show how residues are turned under.

Field trip could be held at a local implement company or at a farm to see equipment and how it is used.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Crop residue - Crop residue is the part of a crop that remains on the soil after part of it has been removed by harvest.

Organic matter - A stage in the decay of crop residue by micro-organisms is known as organic matter.

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VOCATIONAL AGRICULTURE I
Unit - Disposing of Plant Residue (Con't)

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS (Con't)

Humus - Humus is what remain from decayed plant residue by the action of micro-organisms. Plants obtain needed nutrients from humus.

VOCATIONAL AGRICULTURE I
Unit - Land Preparation

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn about early tillage implements, techniques and practices.	Learn some basic information about early tillage implements and methods.
Learn 3 basic reasons for tillage.	Learn 3 basic reasons for tillage.
Learn 5 characteristics of a good seedbed.	Learn 4 characteristics of a good seedbed.
Learn 3 plows used to prepare seedbeds.	Learn 3 types of plows used to prepare seedbeds.
Learn 3 considerations about the proper time to plow.	Learn 3 important considerations about the proper time to plow.
Learn 3 advantages of Fall planting.	Learn 2 advantages of Fall planting.
Learn 3 advantages of Spring planting.	Learn 2 advantages of Spring planting.

CLASSROOM ACTIVITIES

View commercial film and/or slide presentations about early history as well as present on implements used in land preparation.

Provide a chart listing reasons for tillage. Can use drawings to show weeds being removed, soils being loosened, soil structure allowing good water movement.

Provide a chart listing characteristics of a good seedbed. Can use drawings to show eliminated insects, diseases, etc.

Show pictures of plows used to prepare seedbeds. May take a field trip to a farm to observe practices and see equipment.

VOCATIONAL AGRICULTURE I
Unit - Application of Fertilizer

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn general information about history of fertilizer practices.	Learn basic information about fertilizer practices.
Learn 15 nutrients essential for plant growth.	Learn 10 nutrients essential for plant growth.
Learn a special function of each essential nutrient.	Learn a special function for 5 of the essential nutrients.
Learn to determine what is in a bag of commercial fertilizer.	Learn to determine what is in a bag of commercial fertilizer.
Learn 1 important commercial source each of nitrogen, phosphorous and potash fertilizers.	Learn 2 sources of fertilizer other than commercial.
Learn 2 sources of fertilizer other than commercial.	Learn 2 considerations in applying plant nutrients.
Learn 3 considerations in applying plant nutrients.	Learn 3 ways to apply fertilizer.
Learn 3 ways to apply fertilizers.	Learn 2 types of equipment used to apply fertilizers.
Learn 3 types of fertilizer application equipment.	
Learn 3 factors to consider when applying fertilizer.	

CLASSROOM ACTIVITIES

Use commercial sources of audio-visual materials (16mm film, slide-script, etc) to discuss early practices in the fertilizer industry.

Use slides and charts to list essential plant elements.

Use charts to show function of nutrients. Can follow-up with flash cards, word matching statements.

Provide a fertilizer bag label for observation. Point out that 10-20-10 means 10% nitrogen, 20% phosphate, and 10% potash.

VOCATIONAL AGRICULTURE I
Unit - Application of Fertilizer (Con't)

CLASSROOM ACTIVITIES (CON'T)

Have student to determine how many pounds of each are contained in a 50# bag of fertilizer.

Visit a local fertilizer plant or dealer to observe how fertilizers are prepared, and observe applicator equipment - may also visit a farm.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Essential elements - An essential element is something taken from the soil or from the air that a plant must have to live and grow in a healthy manner.

VOCATIONAL AGRICULTURE I
Unit - Irrigation

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn basic facts about irrigation as it began and developed.	Learn basic facts about irrigation as it began and developed.
Learn 5 objectives for irrigation.	Learn 3 objectives for irrigation.
Learn 3 principal methods of applying water to the soil.	Learn 3 principal methods of applying water to soils.
Learn 5 sources of irrigation water.	Learn 4 sources of irrigation water.
Learn 3 properties of soil that are important to irrigation.	Learn 2 important properties of soil that relate to irrigation.
Learn the critical periods for irrigating 5 crops that are grown in the local area.	Learn the critical periods for irrigating 3 crops that are grown in the local area.
Learn three symptoms of plants that need water.	Learn 2 symptoms of plants in need of water.
Learn to determine the moisture content of soils by the "feel" test.	Learn to determine the moisture content of soils by the "feel" test.

CLASSROOM ACTIVITIES

View commercial audio-visual materials on irrigation practices and values.

Provide charts listing objectives of irrigation.

Show drawings, pictures, etc. of sprinkler, surface, and sub-surface irrigation methods.

Provide charts listing sources of irrigation water. Can use drawings or pictures of lakes, ponds, pipe, wells, etc.

Provide a table of crops that indicate critical periods of irrigation.

V.A.I
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VOCATIONAL AGRICULTURE I
Unit - Irrigation (Con't)

CLASSROOM ACTIVITIES (CON'T)

Provide information that give water critical symptoms of several crops.

Demonstrate the "feel" test for moisture content, let student become involved in the activity.

Permit regular students to team with handicapped students for activities.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Irrigation - Irrigation means to artificially apply water to a soil.

VOCATIONAL AGRICULTURE I
Unit - Seed Selection & Methods Used in Planting

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 5 characteristics of good seed.	List 3 characteristics of a good seed.
List 5 conditions when good seed should not be selected.	List 3 conditions when good seed should not be selected.
Learn 10 weed seed to avoid when planting seed are selected.	Learn 5 weed seed to avoid when planting seed are selected
Learn 4 precautions in using home grown seed.	Learn 3 precautions in using home grown seed.
Learn the 4 types of certified seed.	Learn the 3 types of certified seed.
Learn to determine the value of pure live seed.	Learn to determine lbs. of pure live seed in a bag of given wt.
Learn 2 types of tractor mounted planters.	Learn 2 types of planters.
Learn 2 types of grain drills.	Learn 2 types of grain drills.
Learn 2 other types of planting equipment.	Learn some basic principles of spacing seed and of planting depths.
Learn some basic principles of spacing seed and of planting depths.	

CLASSROOM ACTIVITIES

Provide a chart with good seed characteristics listed.

Provide samples of seed to illustrate characteristics desired.

Provide examples of weed seed that are not wanted when planted seed are selected.

Demonstrate how to prepare and treat seed for storage and planting time.

Provide exercise that teaches student to figure the pounds of pure live seed in a 100 lb. bag of seed.

VOCATIONAL AGRICULTURE I
Unit - Seed Selection & Methods Used in Planting (Con't)

CLASSROOM ACTIVITIES (CON'T)

Provide labels of 3 types of certified seed.

Provide pictures or drawings of different types of grain drills and also of tractor mounted planters.

Provide a table of plants that give method of seeding and seeding space.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Pure Live Seed - The amount of seed that will produce plants when planted is known as pure live seed.
Determination procedure: percent purity x percent germination.

Pure seed - When all the seed are of the same kind, the lot of seed is known as pure seed.

Inert matter - All materials in a lot of seed that are not seed.

Germination - Germination is the percentage of seed that will produce plants true to variety and type.

VOCATIONAL AGRICULTURE I

Unit - Importance of Agriculture Mechanics

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learning the meaning of Agricultural mechanics.	Learn the meaning of Agricultural mechanics.
Learn the major areas of study included in Agricultural mechanics.	Learn the major areas of study included in Agricultural mechanics.
Learn why Agricultural mechanics is important to the agriculturists.	Learn why Agricultural mechanics is important to the agriculturists.
Learn 6 reasons mechanical knowledge skills are important.	Learn 6 reasons mechanical skills are important.
Learn 2 mechanical skills needed in each of the following programs: a. Ranch Employee b. Horticulture Employee c. Agricultural machinery mechanics helper and repairman.	Learn 2 mechanical skills needed in each of the following programs: a. Ranch Employee b. Horticulture employee c. Agricultural machinery mechanics helper and repairman.
Learn 5 factors for consideration when selecting shop projects.	Learn 5 factors for consideration when selecting shop projects.

CLASSROOM ACTIVITIES

Use transparencies to project the agricultural mechanics area of study.

Use slides to illustrate specific skills in agricultural mechanics that will be learned.

Use charts or transparencies to illustrate mechanical skills used by ranch employees, horticulture employees, agricultural machinery mechanics helper & repairman, & other selected job titles.

Team regular students with handicapped students to use charts & other audio materials to identify specific skills in agricultural related occupations.

VOCATIONAL AGRICULTURE I
Unit - Shop Rules & Regulations

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the reasons for having rules in the shop	Learn the reasons for having rules in the shop.
Learn a reason why each of the rules is important.	Learn a reason why each of the rules is important.
Learn why classroom theory is important to shop work.	Learn why classroom theory is important to shop work.
Learn how the quality of shop work has an effect on the grade in agriculture.	Learn how the quality of shop work has an effect on the grade in agriculture.

CLASSROOM ACTIVITIES

Provide charts listing shop rules.

Indicate under each rule the importance of the rule.

Use slides to show different types of projects placing emphasis on quality.

Display several samples of project for the student to grasp a concept of quality work.

VOCATIONAL AGRICULTURE I

Unit - Shop Safety

<u>PREFERRED</u> <u>STUDENT EXPECTATIONS</u>	<u>MINIMUM</u> <u>STUDENT EXPECTATIONS</u>
Learn to appreciate the reasons for shop safety practices.	Learn to appreciate the reasons for shop safety.
Learn to identify 5 purposes of shop safety rules.	Learn to identify 4 purposes of shop safety rules.
Learn to identify & properly follow 6 shop safety reminders. a. clean shop b. proper clothing c. shop behaviors d. safety colors and their meanings: red, orange yellow-black, light green yellow, ivory, & green. e. fire prevention & fire-fighting f. first aid practices	Learn to identify & properly follow 6 shop safety reminders. a. clean shop b. proper clothing c. shop behavior d. safety colors and their meanings: red, orange, yellow, yellow-black, light green, ivory, & green. e. fire prevention & fire-fighting f. first aid practices
Learn several considerations in selecting tools for each job.	Learn several considerations in selecting tools for each job.

CLASSROOM ACTIVITIES

Use commercially prepared audio-visual materials including 16mm film, slide sets, slide tape presentations, etc.

Prepare charts listing important items.

Use drawings to illustrate hazardous conditions of tools.

Use illustrated drawings to show first-aid equipment & how it is used.

Display the standard shop colors and make charts explaining their meaning.

Have a tour of the shop & discuss hazardous situations and how to correct them.

By role playing, have someone to dress inappropriately and let students discuss the hazards that may apply.

Demonstrate the use of fire extinguishers. Point out hazards such as oily rags, flammable liquids, volatile chemicals, etc. and demonstrate how they should be properly stored.

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V-A-3

VOCATIONAL AGRICULTURE I
Unit - Shop Safety Continued

CLASSROOM ACTIVITIES

Demonstrate the use of first aid equipment in the treatment of minor injury.

Display tools such as pliers, clawhammers, screwdrivers & adjustable wrenches and demonstrate the proper use.

Display equipment & tools in poor condition & point out safety hazards.

VOCATIONAL AGRICULTURE I

Unit - Selecting and Using Nail Hammers,
Hatchets, & Wrecking Bars

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the general parts and characteristics of a quality claw hammer.	Learn to identify a claw hammer & two parts.
Learn 5 types of nail hammers and a general use of each.	Learn to identify 3 types of nail hammers & their uses.
Learn to drive nails properly.	Learn to drive nails.
Learn how to pull nails.	Learn how to pull nails.
Learn three purposes of hatchets.	Learn 3 uses of hatchets.
Learn the parts of a hatchet.	Learn 3 parts of a hatchet.
Learn 3 types of hatchets and a common use of each.	Learn to use a hatchet.
Learn to properly use a hatchet.	Learn to identify a wrecking bar and learn the parts of one.
Learn the parts of a wrecking bar.	Learn the importance of proper care & maintenance of hammers, hatchets, & wrecking bars.
Learn 4 purposes of a wrecking bar.	
Learn how to use a wrecking bar.	
Learn importance of proper care and maintenance of equipment.	

CLASSROOM ACTIVITIES

Provide drawings of hammers, hatchets, & wrecking bars, all appropriately labeled. Also set up a display of all types available.

Provide nails, hammers, and pieces of wood to demonstrate how to properly drive nails. Give students the opportunity to learn how to drive nails.

Demonstrate how to use a hatchet to drive and pull nails and to make rough lumber cuts. Have students perform these activities:

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VOCATIONAL AGRICULTURE I

Unit - Selecting and Using Nail Hammers, Hatchets, & Wrecking Bars Continued

CLASSROOM ACTIVITIES

Demonstrate how the wrecking bar can be used to pry lumber & pull nails. Have students perform these activities.

Demonstrate how to clean tools and properly put them away.

VOCATIONAL AGRICULTURE I

Unit - Hand Planes

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the uses of the hand plane.	Learn the uses of hand planes.
Learn the major parts of a hand plane.	Learn 3 major parts of hand planes.
Learn 4 kinds of hand planes and the major use of each.	Learn to identify a hand plane.
Learn to assemble and adjust hand planes.	Learn how to adjust hand planes.
Learn how to properly use a hand plane. a. holding the stock b. making the plane stroke c. smoothing the surface of a wide board. d. planing edge and end cuts e. planing chamfers & bevels	Learn how to use hand planes for selected jobs.
Learn the importance of proper care of hand planes.	Learn how to hold stock for someone to plane. Learn the importance for safety practices. Learn the importance for care of hand planes.

CLASSROOM ACTIVITIES

Provide drawings of hand planes, appropriately labeled.

Provide illustrated drawings for procedures in selected uses of hand planes.

Demonstrate how to assemble & adjust planes. Allow students to learn how.

Demonstrate how to use the hand plane & let students perform the skill.

Handicapped students may out of necessity need to team with regular students and serve as helpers. In this case, materials could be gathered, the stock held, etc.

Clean the planes and properly put them away.

VOCATIONAL AGRICULTURE I

Unit - Hand Saws

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the reasons why hand saws may be preferred over power saws.	Learn the reasons why hand saws may be preferred over power saws.
Learn the types of handsaws and a major use of each.	Learn to identify the types of hand saws and a major function of each.
Learn the major parts of a handsaw.	Learn 4 major functions of each.
Learn how to properly use: a. Crosscut Saws b. Ripsaws c. Compass or Keyhole saws d. Coping saws e. Back saws f. Dovetail saw	Learn to properly use: a. Cross-cut saws b. Ripsaws c. Keyhole saws d. Coping saws
Learn the importance of safety practices.	Learn the importance of safety practices.
Learn the importance of proper care of hand saws.	Learn the importance of proper hand saw care.

CLASSROOM ACTIVITIES

- Provide charts of the different types of hand saws properly labeled.
- Display examples of the various kinds of available hand saws.
- Demonstrate an important use of crosscut, rip, keyhole, and coping saw. Permit students to learn how to use the saws.
- Appoint someone to observe for improper use or safety practices to be corrected.
- Clean up tools and properly put them away.

VOCATIONAL AGRICULTURE I

Unit - Wood Chisels

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 2 major purposes of wood chisels.	Learn to identify wood chisels.
Learn the two blade shapes of wood chisels.	Learn two major uses of wood chisels.
Learn how wood chisels are classified. a. the way the handle is connected b. the methods in which chisels are used.	Learn the 2 criteria for classing wood chisels.
Learn 2 types of chisels according to handle attachments and the nature of the handles.	Identify 2 wood chisels by the types of handles.
Learn 2 types of chisels according to use and the major use of each.	Learn to identify 2 types of chisels according to use and learn the major use of each.
Learn to make cuts with wood chisels.	Learn to make cuts with wood chisels.
Learn other uses of wood chisels. a. Dado cutting b. Chiseling rabbets & dados c. Hinge joints d. Curve cutting e. Cutting chamfers	Learn some other uses and how to properly perform the functions. a. Dado cutting & Hinge joints
Learn importance of safety practices.	Learn the importance of safety practices.
Learn importance of proper tool care and use.	Learn the importance of proper use and care of tools.

CLASSROOM ACTIVITIES

Provide drawings of various kinds of labeled wood chisels.

Display different types of available wood chisels.

Demonstrate proper use of different types of cuts with wood chisels.

VOCATIONAL AGRICULTURE I

Unit - Wood Chisels Continued

CLASSROOM ACTIVITIES

Permit students to learn the skills.

Team regular & handicapped students to perform the skills, permitting handicapped students to help on some of the more difficult cuts.

Have someone to identify and point out improper use and safety practices that may be occurring during these practices.

Clean up tools and properly put them away.

VOCATIONAL AGRICULTURE I

Unit - Braces and Bits -- Hand Operated
Drills & Screwdrivers

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the characteristics of a ratchet brace.	Learn basic characteristics of a ratchet brace.
Learn the major parts of a brace.	Learn 4 major parts of a brace.
Learn the types of bits and characteristics of each.	Learn to identify types of bits.
Learn to use a brace & bit.	Learn to use a brace & bit.
Learn the types of hand operated drills and characteristics of each.	Learn the types of hand operated drills and characteristics of each.
Learn to use hand operated drills.	Learn to use a hand operated drill.
Learn how to select proper screwdrivers.	Learn 2 concerns in the proper selection of screwdrivers.
Learn the major parts of a standard blade tip screwdriver.	Learn 3 parts of a standard tip screwdriver.
Learn 4 types of screwdrivers and characteristics of each.	Learn 3 types of screwdrivers and a use of each.
Learn to use screwdrivers.	Learn to properly use screwdrivers.
Learn the importance of safety practices.	Learn the importance of safety practices.
Learn the importance of care & maintenance of tools & equipment.	Learn the importance of care & maintenance of tools & equipment.

CLASSROOM ACTIVITIES

- Provide drawings of different types of labeled tools including braces, hand drills, and screwdrivers.
- Display all available types of braces, hand drills, and screwdrivers.
- Demonstrate the proper use of hand drills.
- Have students to use hand drills as demonstrated.

V.A.I
V-B-5,6,7

VOCATIONAL AGRICULTURE I

Unit - Braces and Bits -- Hand Operated Drills & Screwdrivers Continued

CLASSROOM ACTIVITIES

Demonstrate the proper use of brace & bits.

Instruct students to practice for learning purposes.

Demonstrate the proper use of screwdrivers.

Let students learn to do the skills.

Appoint someone to observe & point out improper use of tools and unsafe procedures.

Clean up tools and properly put them away.

VOCATIONAL AGRICULTURE I

Unit - Identification and Use of Nails, Screws,
Bolts, & other Fasteners

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the major function of nails.	Learn the major purpose of nails.
Learn the 2 main types of nails.	Learn the 2 main types of nails.
Learn to identify 10 types of nails by appearance, name, and use.	Learn to identify types of nails by appearance, name, & use.
Learn how lengths of nails are determined by the term "penny".	Learn how lengths of nails are classed.
Learn the 3 major parts of a nail and important functions of each.	Learn the 3 major parts of nails and a function of each.
Learn 5 important considerations in driving nails.	Learn 3 important considerations in driving nails.
Learn to identify the screws by characteristics of heads, slots, and use.	Learn to identify a few screws by heads, slots, and use.
Learn to drive wood screws.	Learn to drive wood screws.
Learn to identify 6 types of metal screws and their major uses.	Learn to identify 4 types of metal screws and a major function of each.
Learn 3 types of machine screws, their characteristics, & major use.	Learn to identify 3 types of machine screws.
Learn to identify 4 types of bolts, characteristics and major use.	Learn to identify 3 types of bolts.
Learn to identify 3 kinds of washers & 5 kinds of nuts, characteristics & major use of all.	Learn to identify 3 types of washers and 3 kinds of nuts.
Learn proper ways of installing all nuts, bolts, & washers.	Learn to install nuts, bolts, & washers.
Learn proper safety precaution practices.	Learn the importance of shop safety

CLASSROOM ACTIVITIES

Provide properly labeled charts and drawings of the types of nails, screws, bolts, nuts & washers.

VOCATIONAL AGRICULTURE I

Unit - Identification and Use of Nails, Screws,
Bolts, & other Fasteners Continued

CLASSROOM ACTIVITIES

Display examples of all available types of nails, screws, bolts, & washers.

Demonstrate how to drive nails & follow up by letting students drive nails.

Demonstrate how to install screws, nuts, & bolts. Let students practice the procedures.

Clean tools & properly put them away.

VOCATIONAL AGRICULTURE I

Unit - Mechanical Drawing and
Drawing Equipment

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 5 reasons why sketches and drawings are important.	Learn 3 reasons why sketches and drawings are important.
Learn the equipment needed for small projects and purposes of each.	Learn to identify 4 pieces of equipment needed for small projects.
Learn 3 major pieces of equipment needed for large drawings and their purposes.	Learn to identify 3 major pieces of equipment needed for large drawings and learn their purposes.
Learn the importance of neat lettering.	Learn the importance of neat lettering.
Learn 5 types of lines in mechanical drawings and the use of each.	Learn 3 types of lines in mechanical drawings.
Learn the principles of freehand sketches	Learn 3 symbols in form construction.
Learn 5 symbols used in form construction drawings.	Learn to draw circles freehand.
Learn the principles of drawing circles freehand.	Understand principles of freehand drawing.
Learn how to make scaled drawings.	Learn how to properly care for drawing equipment.
Learn how to properly care for drawing equipment.	

CLASSROOM ACTIVITIES

Provide commercial sources of filmstrips, 16mm films, slide-tape presentations to show principles of equipment use & techniques of drawings.

Provide charts and drawings of drawing equipment.

Display any available drawing equipment.

Demonstrate plan and procedures in small drawing projects. Let students participate in these activities.

VOCATIONAL AGRICULTURE I

Unit - Mechanical Drawing and
Drawing Equipment Continued

CLASSROOM ACTIVITIES

Demonstrate by display materials what is involved in large projects and show how it was developed by sketching on a new sheet of paper. Give students an opportunity to learn to do these skills. It might be necessary to team a regular & handicapped student and let the handicapped student be an aide by getting materials as needed.

Demonstrate freehand sketches, freehand circle drawings, and scaled drawing. Allow students to work on these skills, giving handicapped students selected activities.

Demonstrate important features of proper care of equipment.

Carefully put equipment away in their proper places.

VOCATIONAL AGRICULTURE I

Unit - Measuring & Marking Devices

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the parts of a framing square.	Learn to identify the parts of the framing square.
Learn the uses of a framing square.	Learn the uses of a framing square.
Learn how to lay out common rafters.	Learn to lay out or help lay out common rafters.
Learn 4 parts of the combination square.	Learn 3 parts of the combination square.
Learn important uses of the combination square.	Learn important uses of the combination square.
Learn to identify a try square and learn a major use of it.	Learn to identify the try square and an important use.
Learn to identify the T-bevel square and learn a major use of it.	Learn to identify the T-bevel square and a major use of it.
Learn to identify 4 types of rules and/or tapes, characteristics & uses of each.	Learn to identify 4 types of rules and/or tapes and a use of each.
Identify a marking gauge & learn the major function and how to use.	Learn to identify a marking gauge how to use, and a common use.
Learn the purpose of a chalk line and how it is properly used.	Learn the purpose of chalk lines and how they are used.
Learn the importance of proper care of equipment.	Learn the importance of proper care of equipment.

CLASSROOM ACTIVITIES

Provide charts and labeled drawings of types of the framing square, combination square, try square, T-bevel square, and different kinds of rules and tapes.

Display as many kinds of devices as possible.

Show 16mm sound film, slide-tape series, or other commercial media to compliment all the objectives cited.

VOCATIONAL AGRICULTURE I

Unit - Measuring & Marking Devices Continued

CLASSROOM ACTIVITIES

Demonstrate how to lay out common rafters. Permit regular students to learn how and let handicapped students be designated as helpers if the process is too complicated.

Demonstrate how to use all types of squares, rules, and tapes. Permit students to perform these activities.

Demonstrate considerations for the proper care of the measuring & marking devices.

Clean and properly put the devices away.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Rise - the rise is the distance from the top of the plate to the highest point of the rafter.

Span - The distance between the outer plate edges is known as the span.

Run - The run is 1/2 the distance between the 2 outer plates.

Pitch - The pitch of a roof is the slope it determined by a formula:
The rise is divided by twice the run. If the rise is 7 feet and the run is 14 feet, then $\frac{7}{2 \times 14} = \frac{7}{28} = \frac{1}{4}$ for the pitch.

VOCATIONAL AGRICULTURE I

Unit - Identifying Common Kinds of Metal and
Cutting Cold Metal

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the importance of metals to mankind.	Learn the importance of metals.
Learn the basic concepts about mining & iron ore processing.	Learn the basic concepts about mining and iron ore processing.
Learn three types of iron and their characteristics.	Learn 3 types of iron and an important use of each.
Learn 3 types of steel and their uses.	Learn types of steel and their uses.
Learn to identify iron & steel by the spark test.	Observe the spark tests.
Learn 5 non-ferrous metals and their uses.	Learn 3 non-ferrous metals and their uses.
Learn ways to cut cold metals.	Learn the ways to cut cold metal.
Learn 5 devices used to measure & mark metal.	Learn to identify 3 devices used to measure & mark metals.
Learn to properly cut cold metal with a hacksaw.	Learn to cut cold metal with a cold chisel.
Learn how to cut flat metal with a cold chisel.	Learn to cut cold metal with a cold chisel.
Learn to cut round metal with bolt cutters & tin snips.	Learn to cut round metal with bolt cutters and tin snips.

CLASSROOM ACTIVITIES

Provide a display of metals that are included in the unit.

Demonstrate the spark test. Let students learn how to perform the spark test. If handicapped students are not capable of learning by observation, let them run the test and ask regular students to identify the metal.

Demonstrate instruments used to measure and cut metals.

VOCATIONAL AGRICULTURE I

Unit - Identifying Common Kinds of Metal and
Cutting Cold Metal Continued

CLASSROOM ACTIVITIES

Demonstrate how to cut cold metal with a hacksaw & have students to perform the activity.

Demonstrate how to cut cold metal with a cold chisel & have handicapped students to watch regular students perform the activity. Encourage handicapped students to try to perform the activity if they want to.

Demonstrate the use of bolt cutters and tin snips on round metal & rolled tin. Have students perform these activities.

Assign someone to observe for unsafe conduct and improper use of equipment & tools.

Clean & properly put away tools.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Non-ferrous metals - metals that do not contain iron ore are known as non-ferrous metals. e.g. - copper

VOCATIONAL AGRICULTURE I

Unit - Bending and Shaping Metal

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 3 projects that can be made in the shop by bending & shaping metals.	Learn 3 projects that can be made in the shop by bending & shaping metals.
Learn to identify the shapes of iron used in cold metal work.	Learn to identify the shapes of iron used in cold metal work.
Learn 5 common tools used to shape metal.	Learn 3 common tools used to shape metals.
Learn how to bend & twist cold metal.	Learn how to bend & twist cold metal.
Learn to identify several types of files and how to use them to file cold metal.	Learn to identify a few file types and how to use them to file cold metals.
Learn the importance in shop safety.	Learn the importance for using the proper tool for selected jobs.
Learn the importance of the care of tools & equipment.	Learn the importance of shop safety.
Learn the importance for using the proper tool for selected jobs.	Learn the importance of the care of tools & equipment.

CLASSROOM ACTIVITIES

- Provide charts & drawings of metal shaping & bending tools.
- Display as many kinds of tools as possible.
- Use commercial audio-visual materials that describe & show these tools and their uses.
- Demonstrate how to bend & shape metals & let the student learn to perform the skills.
- Demonstrate how to use files and let the student learn how to perform the skills.

V.A.I
V-C-3,4

VOCATIONAL AGRICULTURE I

Unit - Bending and Shaping Metal Continued

CLASSROOM ACTIVITIES

Demonstrate important considerations in the care & maintenance of the tools.

Clean the tools & properly put them away.

VOCATIONAL AGRICULTURE I

Unit - Drilling Holes - Tapping & Threading

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the importance of the shop drill.	Learn the importance of the shop drill.
Learn 4 types of power & hand drills.	Learn to identify 3 types of hand and power drills.
Learn the difference between flat drills, straight cluted, & twist drills.	Learn the difference between twist drills and flat drills.
Learn 3 types of twist drill shanks.	Learn to identify 3 types of twist drill shanks.
Learn the parts of a twist drill.	Learn the parts of the twist drill.
Learn the importance of drill speeds.	Learn the importance of drill speeds.
Learn two purposes of cutting lubricants for different metals.	Learn the two purposes of cutting lubricants for different metals.
Learn how to properly drill cold metal.	Learn how to drill cold metal.
Learn to identify 2 taps & 2 dies.	Learn to identify 2 taps & 2 dies.
Learn the purpose for use of taps & dies.	Learn the major use of taps & dies.
Learn how to properly use taps & dies.	Learn how to use taps & dies.
Learn how to thread rods and bolts.	Learn how to thread rods & bolts.
Learn the importance of shop safety.	Learn the importance of safe practices.
Learn the importance of proper care and maintenance of tools & equipment.	Learn the importance of proper care and maintenance of tools & equipment.

VOCATIONAL AGRICULTURE I

Unit - Drilling Holes - Tapping &
Threading Continued

CLASSROOM ACTIVITIES

Provide charts and drawings of labeled hand drills, drill bits, and taps & dies.

Show audio visual materials commercially prepared that show types and demonstrate uses of the tools.

Display all available kinds of tools for observation.

Demonstrate the proper way to drill holes in cold metal and give students the opportunity to learn the skill.

Demonstrate the ways to use taps & dies and give students the opportunity to learn the skills.

Demonstrate how to thread rods and bolts and give students the opportunity to learn the skills.

If handicapped students have difficulties at selected activities regular students may be assigned to work with them as a team.

Clean the equipment & properly put away.

VOCATIONAL AGRICULTURE I

Unit - Bolting, Riveting, & Removing
Broken Bolts

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn three reasons why bolts are used on agricultural machinery.	Learn three reasons why bolts are used on agricultural machinery.
Learn SAE grades of bolts.	Learn the types of bolt heads and a use for each type of bolt.
Learn 5 types of bolt heads and the purpose for their use.	Learn to identify 3 wrench types for use on bolts.
Learn to identify the types of wrenches for use on bolts.	Learn a major advantage for each type wrench.
Learn an advantage of each type of wrench.	Learn how to operate a torque wrench.
Learn how to operate a torque wrench.	Learn how to bolt metal to metal or to other materials.
Learn how to join metal to metal or to other materials.	Learn the value of rivets to join and hold metals in permanent position.
Learn why rivets are used to join and hold metals in permanent position.	Learn to identify 3 types of rivet heads.
Learn 3 types of rivet heads.	Learn how to rivet metals.
Learn how to rivet metals.	Learn how to remove broken bolts.
Learn how to remove broken bolts.	Learn the importance of shop safety.
Learn the importance of shop safety.	Learn to care for & maintain tools & equipment.

CLASSROOM ACTIVITIES

Provide charts, drawings & other visual aids of labeled bolt heads, wrenches, & rivet heads.

Show commercial audio-visual materials such as 16mm film, slide tape sets, cassette tapes to observe the types of materials and their uses.

VOCATIONAL AGRICULTURE I

Unit - Bolting, Riveting, & Removing
Broken Bolts Continued

CLASSROOM ACTIVITIES

Display SAE bolts and other types of threads & compare for identification.

Demonstrate how to use the wrenches, including the torque wrench. Permit students to learn to use the wrenches.

Demonstrate how to bolt metal to metal & let students learn to perform the skills.

Demonstrate how to rivet metals & let students learn to do the skill.

Demonstrate how to remove broken stud bolts & let students learn how to perform the skill.

Clean the tools and properly put them away.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

SAE Grade - Bolts do not have the same types of threads. A common thread is known as SAE, and classified according to grades by the Society of Automotive Engineers (SAE)

VOCATIONAL AGRICULTURE I

Unit - Brush & Spray Gun Painting

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 3 purposes of paint.	Learn 3 purposes of paint.
Learn 3 characteristics of a good quality paint.	Learn 2 characteristics of a quality paint.
Learn the difference between exterior and enamel paints.	Learn the basic difference between exterior & enamel paints.
Learn 4 other types of paints.	Learn 3 other types of paints.
Learn how to determine the amount of paints needed.	Learn how to determine the amount of paint needed for a job.
Learn to prepare surfaces for painting.	Learn to prepare surfaces for painting.
Learn how to paint with a brush.	Learn how to paint with a brush.
Learn how to care for paint brushes.	Learn how to care for paint brushes.
Learn basic differences between brush & spray-gun spraying.	Learn the basic differences between spray gun & brush painting.
Learn the basic parts of a spray gun.	Learn to identify spray guns and their important parts.
Learn to prepare surfaces for spray gun use.	Learn to prepare surfaces for spray gun painting.
Learn to use the spray gun.	Learn how to use the spray gun.
Learn to clean & care for the spray gun.	Learn to clean & care for the spray gun.

CLASSROOM ACTIVITIES

Display the different kinds of paints.

Prepare a chart to list characteristics of a good quality paint.

VOCATIONAL AGRICULTURE I

Unit - Brush & Spray Gun Painting Continued

CLASSROOM ACTIVITIES

Demonstrate how to measure surface to be painted, how to figure square feet, and how to determine how many gallons of paint will be needed.

Team a regular student with a handicapped student. Let the handicapped student serve as a helper if comprehension is not possible.

Demonstrate how to prepare wood & metal surfaces for painting. Have students perform this activity.

Demonstrate how to paint with a brush, and how to clean it. Have students perform these activities.

Demonstrate the use of a spray gun. Have students perform this activity.

Demonstrate how to clean the spray gun. Have students perform this activity.

V.A.I
V-E-1,2,3,4,5

VOCATIONAL AGRICULTURE I

Unit - Conditioning Plane Irons, Wood
Chisels (Wood & Metal) Screwdrivers & Cold Chisels

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the advantages of using sharp tools.	Learn the advantages of using sharp tools.
Learn 3 types of sharpening equipment used in most shops.	Learn to identify 3 types of sharpening equipment used in most shops.
Learn the parts of a grinder.	Learn the parts of a grinder.
Learn how to care for a grinding wheel.	Learn how to care for a grinding wheel.
Learn how to use a grinder.	Learn how to use a grinder.
Learn when to sharpen plan irons and wood chisels. Learn how to grind & hone them.	Learn to identify dull plane irons and wood chisels.
Determine when auger bits become dull & learn how to sharpen them.	Learn how to grind & hone plane irons and wood chisels.
Learn to recondition and sharpen twist drills.	Learn to recondition & sharpen twist drills.
Learn to reshape standard screwdriver tips and to correct other problems.	Learn to reshape standard screwdriver tips and to correct other problems.
Learn why sharp cold chisels are necessary.	Learn the importance of sharp cold chisels.
Learn to reshape cold chisels.	Learn how to reshape cold chisels.
Learn safety practices in using cold chisels.	Learn safety practices in using cold chisels.

V.A.I

VII-A-1

VOCATIONAL AGRICULTURE I

Unit - Supervised Experience Programs & Records Explanation, Purposes, & Planning of Supervised Occupational Experience Programs

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn to identify the 3 basic parts of a vocational agriculture program.	Learn to identify the 3 basic parts of a vocational agriculture program.
Learn to correlate the Supervised Occupational Experience Programs (SOEP) to other agriculture activities.	Learn why other agriculture activities are correlated to the Supervised Occupational Experience Program.
Learn the 3 vocational agriculture programs in Texas high schools.	Learn the 3 vocational agriculture programs in Texas high schools.
Learn the basic characteristics of each program.	Learn the basic characteristics of each program.
Learn 7 considerations in selecting a Planned Supervised Occupational Experience Program.	Learn 5 considerations in selecting a Planned Supervised Occupational Experience Program.
Learn 3 important values in well-planned Supervised Occupational Experience Programs.	Learn 3 important values in well-planned Supervised Occupational Experience Programs.

CLASSROOM ACTIVITIES

Use charts, transparencies, or other audio-visual materials listing 3 parts of a vocational agriculture program.

Use charts or transparencies listing 3 programs in Agriculture.

Use charts or transparencies listing the considerations in selecting Planned Supervised Occupational Experience Program. Illustrate if possible with pictures, sketches, etc.

Use transparencies to show the important values in a well-planned Supervised Occupational Experience Program.

Handicapped students may be teamed with regular students to verbally recite items listed on charts.

V.A.I
VII-A-1

VOCATIONAL AGRICULTURE I

Unit - Supervised Experience Programs & Records
Explanation, Purposes, & Planning of Supervised
Occupational Experience Programs

CLASSROOM ACTIVITIES

Most of the materials may be purchased from Vocational
Instructional Services, TAMU, College Station, Texas.

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

SOEP - Students enrolled in Vocational Production Agriculture are
required to have a project. All activities associated
with the project are under the supervision of the voca-
tional agriculture teacher. This part of agriculture is
called the Supervised Occupational Experience Program (SOEP).

VOCATIONAL AGRICULTURE I

Unit - Characteristics of a Good Supervised Farming Program

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the SOEP requirements for a student in production agriculture.	Learn some of the SOEP requirements for a student in production agriculture.
Learn 6 benefits of SOEP in Production Agriculture.	Learn to identify 4 benefits of SOEP in Production Agriculture.
Learn the meaning of a "Production Project".	Learn the meaning of a "Production Project".
Learn 5 examples of Animal Enterprise Projects and the purpose for each one.	Learn 4 examples of Animal Enterprise Projects.
Learn 5 examples of Plant Enterprise Projects and the purpose for each one.	Learn 4 examples of Plant Enterprise Projects.
Learn 2 examples of other Production Enterprises and the purpose of each.	Learn one other example of Production Enterprises.
Learn 3 considerations for developing a good production project program.	Learn 2 considerations for developing a good production project program.
Learn the basic characteristics of the "Farm Placement" Program.	Learn the basic characteristics of the "Farm Placement" Program.

CLASSROOM ACTIVITIES

Provide duplicated materials of requirements for SOEP students in Production Agriculture.

Use transparencies of duplicated materials to explain the requirements.

Provide duplicated materials and supplements with transparencies - examples of project.

Let students that are handicapped work with regular students in verbally identifying the different kinds of projects.

Many materials are available at Vocational Instructional Services, TAMU, College Station, Texas.

VOCATIONAL AGRICULTURE

Unit - Selecting & Planning Individual Supervised
Occupational Experience Programs

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 2 ways a production project can make important contributions.	Learn 2 ways production projects can make important contributions.
Learn 7 important points of consideration in selecting production projects.	Learn to identify 5 important points of consideration when selecting production projects.
Learn to determine if the enterprise selected is a good risk.	Learn how to determine if the enterprise selected is a good risk.
Learn where to get information needed to make estimates to determine money-making possibilities for: a. livestock & poultry enterprise expenses b. crop enterprise expenses c. other factual information	Learn where to gather information needed to determine money-making possibilities for: a. livestock & poultry enterprise expenses b. crop enterprise expenses c. other factual information
Learn how to estimate money-making possibility on selected enterprises.	

CLASSROOM ACTIVITIES

Use transparencies illustrating how to consider selection of production projects. Provide students with duplicated materials as discussion proceeds.

Use transparencies and duplicated student materials listing and explaining information needed to estimate money-making activities.

Let the student estimate and determine money-making projects based on information provided. Assign regular with handicapped students. Let handicapped students assist the regular students in looking up required information.

Needed materials are available at the Vocational Instructional Services, TAMU, College Station, Texas.

VOCATIONAL AGRICULTURE

Unit - Purposes & Procedures of Keeping
Accurate Records

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the two basic types of FFA record books, and the application of each.	Learn two basic types of FFA record books and the application of each.
Learn 5 values of complete and accurate records.	Learn 3 values of complete and accurate records.
Learn some general information about methods of keeping record books.	Learn some general information about methods of keeping record books.
Learn to complete a practice record book.	Learn to complete a selected practice record book with assistance.
Learn to keep accurate records of SOEP project in FFA.	Learn to gather and provide information for SOEP project record book.

CLASSROOM ACTIVITIES

Provide each student a record book.

Use a transparency explaining specific uses of complete and accurate record books.

Use transparencies to explain the basic principles of record keeping.

Use transparencies to explain each part of the record book.

Provide worksheets for students to practice selected record keeping exercises. Provide information needed on duplicated materials.

Team a regular student with a handicapped one to help handicapped students keep accurate records.

Materials are available at Vocational Instructional Services, TAMU, College Station, Texas.

VOCATIONAL AGRICULTURE

Unit - Analyzing Production Projects

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 3 reasons for analyzing production agriculture enterprises.	Learn 2 reasons for analyzing production agriculture enterprises.
Learn to complete the Production Enterprise Analysis sheets.	Learn to complete selected portions of Production Enterprise Analysis sheets.
Learn to complete selection Production Enterprise Analysis sheets: Breeding Enterprise Crop Enterprise Feeding Enterprise Milk Production Analysis	Learn to complete selection Practice Production Enterprise Analysis sheets on project that is appropriate to each individual.
Learn to complete Production Analysis sheet on the SOEP project of each student.	Learn to provide information needed to complete Production Enterprise Analysis Sheet on the SOEP Project of each student.

CLASSROOM ACTIVITIES

Provide work sheets for work on selected Production Enterprise Analysis sheets.

Use transparencies of the worksheets to discuss how to record and evaluate.

Have regular students to team with handicapped students to assist in computations if necessary.

Materials are available from Vocational Instructional Services, TAMU, College Station, Texas.

VOCATIONAL AGRICULTURE I

Unit - Records for Awards and Scholarships

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the importance of records in making application for all Degrees, awards, and scholarships.	Learn the importance of records in making application for FFA Degrees, Awards, and scholarships.
Learn the FFA Degrees Awarded at the Chapter level.	Learn the FFA Degrees at the Chapter level and above the Chapter level.
Learn the FF7. Degrees Awarded above the Chapter level.	Learn the awards available for the FFA Degree Applicants (Foundation Awards).
Learn the awards available from the National FFA Foundation to FFA Degree Applicants.	Learn to identify 5 production Agriculture Proficiency Awards.
Learn the purpose of FFA Achievement Awards.	Learn to identify a proficiency award in each of the following areas: Agricultural mechanics, Renewable Natural Resources, Agricultural Products Processing, marketing, and horticulture.
Learn to identify 7 Agricultural Proficiency Awards in Production Agriculture.	Learn to identify 3 cooperative Training Awards and what State winners receive.
Learn to identify 2 proficiency awards in each of the following areas: Agricultural mechanics, Renewable Natural Resources, Agricultural Products Processing, marketing and horticulture.	Gain some concepts about the following awards: Pre-employment Chapter Award Program, Santa Fe.
Learn to identify 4 cooperative training awards and what Area and State winners receive.	
Become familiar with the following awards: Pre-employment, Santa Fe, Texas & South-western Cattle Raisers' Association, Chapter Award Program.	

VOCATIONAL AGRICULTURE I

Unit - Records for Awards and Scholarships

CLASSROOM ACTIVITIES

*Provide duplicated materials that show Degrees Awarded.

Provided duplicated materials that show the FFA Proficiency Awards and all other awards available to the chapter and individuals.

Use transparencies and explain the degrees, giving the student the opportunity to follow with their duplicated materials.

Use transparencies with selected illustrations of completed award applications.

*Materials are available at Vocational Instructional Services, TAMU, College Station, Texas.

VOCATIONAL AGRICULTURE I

Unit - History, Aims, and Purposes

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn who can become FFA members.	Learn who can become FFA members.
Learn where the National FFA Headquarters is located and the year it was organized.	Learn the location of the National FFA Headquarters and the year it began.
Learn 4 activities FFA members can actively do to become productive citizens.	Learn 2 activities FFA members can actively do to become productive citizens.
Learn the 5 symbols of the FFA emblem and what each symbolizes.	Learn the 5 symbols of the FFA and what 2 symbolize.
Learn the FFA colors.	Learn the FFA colors.
Learn to recite the FFA motto.	Learn to recite the FFA motto.
Learn to recite the FFA salute.	Learn to recite the FFA salute.
Learn to recite the FFA creed.	Learn to recite the FFA creed.
Learn where the National FFA Convention is held.	Learn where the National FFA Convention is held.
Learn the proper use of the FFA jacket.	Learn the proper use of the FFA jacket.

CLASSROOM ACTIVITIES

- Provide each student with the Official FFA Manual.
- Discuss information to be learned.
- Use charts or overhead to discuss information to be discussed.
- Permit handicapped students to recite or write the FFA creed by parts at time intervals if necessary.
- Display a properly worn jacket (by a student) and one that is improperly displayed (by another student) and discuss the proper way of wearing it.
- If necessary, permit handicapped students to recite or write the motto and salute by parts and time intervals.

VOCATIONAL AGRICULTURE I

Unit - Local and District Organizations

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn the offices of a local chapter.	Learn the offices of a local chapter.
Learn the emblem of each office.	Learn the emblem of each office.
Learn the opening and closing ceremonies of an FFA meeting.	Learn to participate as a member in the opening and closing of FFA meetings.
Learn the District FFA offices and how officers are selected.	Learn the District FFA offices and how officers are selected.
Learn how the number of voting delegates are determined.	Learn how dues are administered.
Learn how dues are administered.	
Learn 4 types of FFA membership and who is eligible for each.	

CLASSROOM ACTIVITIES

- Provide all students with the official FFA manual for study purposes.
- Display charts listing officers of a local FFA chapter with the appropriate emblems of each.
- Display the paraphernalia used in chapter meetings.
- Display a chart of the types of FFA membership.
- Assign students (regular) to parts in opening and closing of chapter meetings. Let handicapped students observe and participate if they desire to do so.
- Let students determine the number of voting delegates above chapter level using selected numbers of chapter members.

VOCATIONAL AGRICULTURE I

Unit - Individual Responsibility to the FFA

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn a major responsibility of each FFA officer.	Learn a major responsibility of each FFA officer.
Learn 3 duties FFA officers have in common.	Learn 3 duties FFA officers have in common.
Learn the major responsibilities of chapter members.	Learn the major duties of chapter members.

CLASSROOM ACTIVITIES

- Provide all students with the official FFA manual.
- Provide a chart listing responsibilities of Chapter Officers.
- Provide a chart listing responsibilities of chapter members.
- Discuss responsibilities and encourage students to think of others.

VOCATIONAL AGRICULTURE I

Unit - Degree Qualifications

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 5 requirements for receiving the Greenhand Degree.	Learn 5 requirements for receiving the Greenhand Degree.
Learn 5 requirements for receiving the Chapter Farmer Degree.	Learn 5 requirements for receiving the Chapter Farmer Degree.
Learn 5 requirements for receiving the State Farmer Degree.	Learn 5 requirements for receiving the State Farmer Degree.
Learn 2 requirements for receiving the American Farmer Degree.	Learn 2 requirements for receiving the American Farmer Degree.

CLASSROOM ACTIVITIES

Provide each student with the official FFA manual.

Display a chart or use an overhead listing the requirements for the Greenhand Degree.

Display a chart or use an overhead listing the requirements for the Chapter Farmer Degree.

Display a chart or use an overhead listing the requirements for the State Farmer Degree.

Display a chart or use an overhead listing the requirements for the American Farmer Degree.

Discuss and encourage student participation in the importance of FFA Degrees.

VOCATIONAL AGRICULTURE I

Unit - Committee Responsibilities

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn to identify the three committees appointed by the chapter President and the responsibilities of each.	Learn to identify 2 committees appointed by the chapter President and the responsibilities of each.
Learn the responsibilities of standing and special committees.	Learn the responsibilities of standing and special committees.

CLASSROOM ACTIVITIES

Provide each student with the Official FFA manual.

Display a chart of the 3 committees appointed by the President with the responsibilities of each.

Display a chart of Standing and Special Committee functions.

VOCATIONAL AGRICULTURE I

Unit - Local Program of Work

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn three important reasons for a good program of work.	Learn 2 important reasons for a good program of work.
Learn to identify 8 areas in which FFA chapters should plan activities.	Learn to identify 6 areas in which FFA chapters should plan activities.
Learn an important activity each program of work committee should set goals to accomplish.	Learn an important activity each program of work committee should set goals to accomplish.

CLASSROOM ACTIVITIES

Provide each student with the official FFA manual.

Display a chart of overhead listing important reasons for a good program of work.

Display a chart of the 11 activities of a Program of Work. Under each activity, list the goals that can be accomplished.

Encourage student involvement in discussing the activities that can be performed.

VOCATIONAL AGRICULTURE I

Unit - Constitution and By-Laws

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn to use the constitution and By-Laws to find information needed.	Learn where to find information needed to explain chapter activities.
Study parts that have not been discussed in preceeding lessons.	Study parts that have been discussed in preceeding lessons.
Learn to identify the 4 regions of FFA (geographically) and 8 of the states in our region.	Learn to identify 3 regions of the FFA (geographically) and 6 of the states in our region.

CLASSROOM ACTIVITIES

Provide each student with an official FFA manual.

Go through the constitution and By-Laws quickly discussing and reinforcing materials previously covered.

Slowly and deliberately go over materials that have not been previously covered.

Display a chart or overhead of the 4 geographical regions of FFA.

Team regular and handicapped students to verbally review the 4 regions and the States of the local region.

VOCATIONAL AGRICULTURE I

Unit - Leadership Skills

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn to identify 15 proficiency awards in FFA.	Learn to identify 10 proficiency awards in FFA.
Learn to identify 5 Star Awards.	Learn to identify 5 Star Awards.
Learn to identify 5 judging contests.	Learn to identify 5 judging contests.
Learn to identify 5 leadership contests.	Learn to identify 3 leadership contests.

CLASSROOM ACTIVITIES

- Provide all students with the Official FFA Manual.
- Display a chart listing the FFA Foundation Proficiency Awards.
- Display a chart of Star Awards.
- Display a chart listing the judging contests.
- Display a chart listing the leadership contests.

VOCATIONAL AGRICULTURE I
Unit - Parliamentary Procedure

PREFERRED STUDENT EXPECTATIONS	MINIMUM STUDENT EXPECTATIONS
Learn 5 important reasons for learning parliamentary procedure.	Learn 3 important reasons for learning parliamentary procedure.
Learn 5 good characteristics of a Presiding officer.	Learn 4 characteristics of a good Presiding officer.
Learn to demonstrate basic fundamental practices of Parliamentary Procedures.	Learn to participate in basic fundamental practices of Parliamentary Procedures.
Learn the methods of taking votes.	Learn basic ways of voting.
Learn the 5 major classifications of motions and an example of each.	Learn 3 major classifications of motions and an example of each.
Learn to properly execute 10 motions.	Learn to participate in 10 motions.
Learn to execute a problem related to a Leadership contest.	Learn to participate as a member in a problem related to a Leadership Contest.

CLASSROOM ACTIVITIES

- Provide each student with a copy of "Parliamentary Guide to FFA."
- Provide a chart listing the importance of Parliamentary procedures.
- Provide a chart and use an overhead transparency to show fundamental practices of parliamentary procedures.
- Provide a chart showing types of voting.
- Discuss the types of motions.
- Select students to practice the motions discussed.
- Allow handicapped students to participate as members.
- Provide problems that have been used in contests, letting handicapped students serve as members.

VOCATIONAL AGRICULTURE I
Unit - Parliamentary Procedure

ADDITIONAL WORDS FOR A GLOSSARY OF TERMS

Majority - More than half of those voting members makes a majority vote. If 100 members vote, then 51% would make the majority.

Plurality - When one candidate receives more votes than any other candidate, he has a plurality vote.

Two-thirds vote - If a vote requires a $\frac{2}{3}$ majority then 2 of every 3 votes must favor acceptance.